

Victorian Government - State of Parana Water Research Linkages Project

Potential Researcher Groupings by Field

FIELD: Water Engineering, Resources & Treatment			
Researchers	University	Identified Research Topics	Other Potential Topics
A/Prof Monzur Imteaz	Swinburne University	Water Harvesting and Recycling	Water Resources and Hydrologic Modelling
Dr Shirley Gato-Trinidad	Swinburne University	Season Rainfall/Runoff Forecasting	Development of a robust ceramic membrane-based system to remove impurities from industrial/mining wastewater
Prof Stephen Gray	Victoria University	Membrane Technology	Feasibility study of using Concentrated Solar Power (CSP) in desalination plants
Prof Mikel Duke	Victoria University	Residential end-use studies in regional areas	Application of systems science
A/Prof Ashok Sharma	Victoria University	Review of Peak Demand Factors for Water Supply and Wastewater Systems	Integrated Assessment of Water Supply and Flood Mitigation Benefits of Household Rainwater Tanks
Dr Nitin Muttill	Victoria University	Improve maintenance of constructed wetlands through creation of wetland register and monitoring	Water Demand modelling and forecasting (incl. end use modelling)
Dr Casey Furlong	RMIT University	Comparison of past and present water security situation and possible actions between Curitiba and Melbourne	Water Supply Systems Planning, Investigation and Design
A/Prof Robert Faggian	Deakin University	Climate change adaptation at the local and regional scale	Water Recycling
A/Prof Victor Sposito	Deakin University	Sustainable regional development	Industrial Water Treatment
		Applied molecular biology	Desalination
		Climate change impacts on groundwater resources in regional areas	Small Scale Water Treatment
		Using alternative water resources to drive agro-ecological development in urban areas	Lowering the energy required for wastewater treatment
		Climate smart agricultural development	Resource recovery from waste streams
		Sustainable regional development in a changing climate: land-use	Integrated urban water management
			Water-sensitive urban design
			River water quality
			Hydraulic and hydrological modelling
			Distributed/decentralised systems
			Water security
			Urban greening' and liveability

FIELD: Economics, Social Sciences & Governance

Researchers	University	Identified Research Topics	Other Potential Topics
A/Prof Malcolm Abbott	Swinburne University	Water Pricing	Electricity and gas demand forecasting
Dr Daniel Ooi	Victoria University	Water industry structure and governance issues	Development of water and energy markets
Prof Roger Jones	Victoria University	Asset valuation in water industry and their relation to pricing and investment	Behaviour Change
Prof Glen Wittwer	Victoria University	Macroscale economic effects from changes in institutional arrangements and policy for the management of water	Demand Management
Dr Brian Coffey	RMIT University		Public Acceptance Taste Testing Externality costs associated with integrated water management (esp. liveability) Policy and governance processes and frameworks How research and knowledge informs policy and governance

FIELD: Rivers & Ecology

Researchers	University	Identified Research Topics	Other Potential Topics
Dr Melissa Neave	RMIT University	Promoting integrated approaches to catchment management	Linkages between social and political issues and environmental outcomes Hydrologic functioning of catchments Influence of hydro-climactic variability on riverine biota
Prof Nick Bond	La Trobe University		Environmental flow planning and implementation
A/Prof Daryl Nielsen	La Trobe University		Catchment and river restoration River Population modelling Landscape ecology Lowland river ecology Floodplain and wetland ecology Ecology of dormant seeds and eggs Invertebrate ecology Aquatic plant ecology Functional ecology of freshwater fish Models to support management of freshwater fishes
Dr Rick Stoffels	La Trobe University		Influence of riparian plants on stream ecology
Dr Paul McInerney	La Trobe University		Invasive species Aquatic macroinvertebrate ecology

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Institution	Title	Name	Field of Study	Area of Interest*	Previous engagement in LatAm
Swinburne University					
	A/Prof	Malcolm Abbott	Economics	Water Pricing	Peru 2016 - <i>Sociedad Nacional e Industrias</i> - Advised on Australian institutional arrangements, microeconomic reform and productivity and its applicability to Peru
				Water industry structure and governance issues	Argentina 2016 - DFAT: Nation Building in Argentina: Harnessing Australia's Experience for Sustainable Development
				Asset valuation in water industry and their relation to pricing and investment Electricity and gas demand forecasting Development of water and energy markets	
	A/Prof	Monzur Imteaz	Water & Environmental Engineering	Water Harvesting and Recycling	Previous tour to Brazil (Sao Paulo and Minas Gerais) to explore research collaboration opportunities
				Season Rainfall/Runoff Forecasting	Collaboration w/ State University of Campinas to jointly supervise a PhD student on 'assessing flood vulnerability due to rapid land-use changes in Sao Paulo'
	Dr	Shirley Gato-Trinidad	Water and Civil Engineering	Integrated Assessment of Water Supply and Flood Mitigation Benefits of Household Rainwater Tanks Residential end-use studies in regional areas Review of Peak Demand Factors for Water Supply and Wastewater Systems Improve maintenance of constructed wetlands through creation of wetland register and monitoring Feasibility study of using Concentrated Solar Power (CSP) in desalination plants Development of a robust ceramic membrane-based system to remove impurities from industrial/mining wastewater Water Resources and Hydrologic Modelling Water Demand modelling and forecasting (incl. end use modelling) Water Supply Systems Planning, Investigation and Design	

***Bolted text indicates specific research topic of interest for Parana engagement**

Institute for Sustainability and Innovation (ISI)

Water Treatment Program

Prof	Stephen Gray	Water Treatment	Membrane Technology
Prof	Mikel Duke		Water Recycling Industrial Water Treatment Desalination Small Scale Water Treatment Lowering the energy required for wastewater treatment Resource recovery from waste streams

Water Resources Program

A/Prof	Ashok Sharma	Water Resources	Water resources planning
Dr	Nitin Muttill		Integrated urban water management Water-sensitive urban design River water quality Hydraulic and hydrological modelling Distributed/decentralised systems

Social Science Research Program

Dr	Daniel Ooi	Social Sciences	Behaviour Change Demand Management Public Acceptance Taste Testing
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Economics Program

Prof	Roger Jones	Externality costing	Externality costs associated with integrated water management (esp. liveability)
Prof	Glyn Wittwer		CGE modelling
			Macroscale economic effects from changes in institutional arrangements and policy for the management of water

RMIT University

Prof	Jega Jegatheesan	Environmental Engineering	<i>RMIT Lead contact</i>
Dr	Brian Coffey	Sustainability and Urban Planning	Policy and governance processes and frameworks How research and knowledge informs policy and governance
Dr	Casey Furlong	Water	Comparison of past and present water security situation and possible actions between Curitiba and Melbourne Water security Water reuse/recycling Integrated planning Infrastructure planning Urban greening' and liveability Collaborative planning
Dr	Melissa Neave	River Geomorphology	Promoting integrated approaches to catchment management Linkages between social and political issues and environmental outcomes Hydrologic functioning of catchments

Deakin University

Both respondents from Deakin indicated an ongoing and continued engagement with Parana

A/Prof	Victor Sposito	Strategic Planning	Climate change impacts on groundwater resources in regional areas Using alternative water resources to drive agro-ecological development in urban areas Climate smart agricultural development Sustainable regional development in a changing climate: land-use and water allocation	Assessing the impact of climate change on snow-melt driver catchments; implications for water allocation in Australia and Chile
A/Prof	Rober Faggian	Climate Change	Climate change adaptation at the local and regional scale Sustainable regional development Applied molecular biology Application of systems science Climate change Water resource management Land-use (incl. modelling) Plant Pathology Systems science	

Murray-Darling Freshwater Research Centre

Assisted PhD research in hydrological activity and ecology (Dr Jorge Laco Portino)
 Current PhD Student examining water velocity, flow and habitat availability on the settlement ability of fish larvae with differing reproductive strategies

Prof	Nick Bond	Environmental Management and Ecology	<p>Influence of hydro-climatic variability on riverine biota</p> <p>Environmental flow planning and implementation</p> <p>Catchment and river restoration</p> <p>Population modelling</p> <p>Landscape ecology</p>	<p>Director of the Murray-Darling Freshwater Research Centre</p> <p>Development and application of environmental flow methods for rivers in Peru</p>
A/Prof	Daryl Nielsen	Environmental Management and Ecology	<p>Lowland river ecology</p> <p>Floodplain and wetland ecology</p> <p>Ecology of dormant seeds and eggs</p> <p>Invertebrate ecology</p> <p>Aquatic plant ecology</p>	<p>Brazilian Limnological Congress 2015</p> <p>Knowledge of environmental problems associated with Parana River</p>
Dr	Rick Stoffels	Fish Biology	<p>Functional ecology of freshwater fish</p> <p>Models to support management of freshwater fishes</p>	
Dr	Paul McNerny	Freshwater ecosystem dynamics	<p>Influence of riparian plants on stream ecology</p> <p>Invasive species</p> <p>Aquatic macroinvertebrate ecology</p>	